

WHAT IS CLAIMED IS:

1. A fluoroplastic comprising a nitrogen-containing cure site and units derived from a fluorinated monomer.
2. A fluoroplastic according to claim 1 wherein said nitrogen-containing cure site is derived from a nitrogen-containing cure site monomer.
3. A fluoroplastic according to claim 1 wherein said nitrogen-containing cure site is selected from a nitrile group, an amidine group or a salt thereof, an imidate group, and combinations thereof.
4. A fluoroplastic according to claim 2 wherein said nitrogen-containing cure site monomer comprises a nitrile-containing cure site monomer.
5. A fluoroplastic according to claim 2 wherein said nitrogen-containing cure site monomer comprises a nitrile-containing vinyl ether.
6. A fluoroplastic according to claim 1 wherein said fluorinated monomer is selected from the group consisting of perfluoroolefins, perfluorovinyl ethers, and combinations thereof.
7. A fluoroplastic according to claim 6 wherein said perfluoroolefin comprises tetrafluoroethylene.
8. A fluoroplastic according to claim 6 wherein said perfluorovinyl ether is selected from the group consisting of perfluoroalkylvinyl ethers, perfluoroalkoxyvinyl ethers, and combinations thereof.
9. A fluoroplastic according to claim 1 comprising units derived from (a) a nitrogen-containing cure site monomer, (b) tetrafluoroethylene, and (c) a perfluoroalkylvinyl ether.
10. A fluoroplastic according to claim 1 wherein said nitrogen-containing cure site is derived from a nitrogen-containing chain transfer agent.
11. A fluoroplastic according to claim 1 wherein said fluoroplastic further comprises bromine atoms, iodine atoms, and combinations thereof.
12. A fluoroplastic according to claim 1 wherein said fluoroplastic is in the form of a core-shell polymer in which the core comprises units derived from the fluorinated monomer and the shell comprises the nitrogen-containing cure site.

13. A latex comprising fluoroplastic particles that include a nitrogen-containing cure site and units derived from a fluorinated monomer.
14. A latex according to claim 13 wherein said particles have a particle size ranging from about 10 to about 500 nm.
- 5 15. A curable blend comprising: (a) a fluoroplastic and (b) a fluoroleastomer gum, said fluoroplastic comprising a nitrogen-containing cure site and units derived from a fluorinated monomer.
16. A curable blend according to claim 15 wherein said nitrogen-containing cure site is derived from a nitrogen-containing cure site monomer.
- 10 17. A curable blend according to claim 16 wherein said nitrogen-containing cure site monomer is selected from the group consisting of nitrile-containing cure site monomers, amidine-containing cure site monomers and salts thereof, imidate-containing cure site monomers, and combinations thereof.
18. A curable blend according to claim 17 wherein said nitrogen-containing cure site monomer comprises a nitrile-containing cure site monomer.
- 15 19. A curable blend according to claim 15 wherein said fluorinated monomer is selected from the group consisting of perfluoroolefins, perfluorovinyl ethers, and combinations thereof.
20. A curable blend according to claim 15 wherein said nitrogen-containing cure site is derived from a nitrogen-containing chain transfer agent.
- 20 21. A curable blend according to claim 15 wherein said fluoroplastic further comprises bromine atoms, iodine atoms, and combinations thereof.
22. A curable blend according to claim 15 wherein said fluoroplastic is in the form of a core-shell polymer in which the core comprises units derived from the fluorinated monomer and the shell comprises the nitrogen-containing cure site.
- 25 23. A curable blend according to claim 15 comprising from about 1-70% by weight of said fluoroplastic.
24. A cured, shaped article comprising: (a) a fluoroplastic and (b) a fluoroleastomer, said fluoroplastic comprising a nitrogen-containing cure site and units derived from a fluorinated monomer.
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25. A cured, shaped article according to claim 24 wherein said article has a compression set no greater than about 70% after 70 hours at 315°C.
26. A cured, shaped article according to claim 24 wherein said nitrogen-containing cure site is derived from a nitrogen-containing cure site monomer.
- 5 27. A cured, shaped article according to claim 26 wherein said nitrogen-containing cure site monomer is selected from the group consisting of nitrile-containing cure site monomers, amidine-containing cure site monomers and salts thereof, imidate-containing cure site monomers, and combinations thereof.
28. A cured, shaped article according to claim 27 wherein said nitrogen-containing cure
10 site monomer comprises a nitrile-containing cure site monomer.
29. A cured, shaped article according to claim 24 wherein said fluorinated monomer is selected from the group consisting of perfluoroolefins, perfluorovinyl ethers, and combinations thereof.
30. A cured, shaped article according to claim 24 wherein said nitrogen-containing cure
15 site is derived from a nitrogen-containing chain transfer agent.
31. A cured, shaped article according to claim 24 wherein said fluoroplastic further comprises bromine atoms, iodine atoms, and combinations thereof.
32. A cured, shaped article according to claim 24 wherein said fluoroplastic is in the form of a core-shell polymer in which the core comprises units derived from the fluorinated
20 monomer and the shell comprises the nitrogen-containing cure site.
33. A blend comprising (a) a latex comprising fluoroplastic particles and (b) a latex comprising fluoroelastomer gum particles, said fluoroplastic particles comprising a nitrogen-containing cure site and units derived from a fluorinated monomer.
34. A blend according to claim 33 wherein said fluoroplastic particles have a particle size
25 ranging from about 10 to about 500 nm.
35. A process for preparing a fluoroplastic comprising: (a) introducing a first polymerizable composition comprising at least one fluorinated monomer into a polymerization reactor; (b) polymerizing said composition in said reactor to form an at least partially polymerized composition; (c) introducing up to 40 weight percent
30 (based on the total weight of compositions introduced to the reactor) of a second

polymerizable composition into the reactor, said composition comprising at least 70 weight percent of nitrogen-containing cure site component; and (d) copolymerizing said nitrogen-containing cure site component with said fluorinated monomer to form a fluoroplastic.

- 5 36. A process according to claim 35 comprising introducing up to about 20 weight percent of said second polymerizable composition.
37. A process according to claim 35 comprising introducing up to about 10 weight percent of said second polymerizable composition.